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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/517,353	03/02/2000	Chad Byron Moore	MRE-9	5133

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EXAMINER
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DOAN, JENNIFER

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 04/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/517,353

Applicant(s)

MOORE, CHAD BYRON

Examiner

Jennifer Doan

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-25, 38 and 39 is/are allowed.
- 6) ☒ Claim(s) 1-7, 10, 12-17, 26, 27, 29-33, 36 and 37 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 11, 18, 19, 28, 34 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

The petition under 37 C.F.R. § 1.137 (b), filed December 15, 2003, to revive the abandonment of the application is granted on 01/22/04. The abandonment is therefore withdrawn.

Applicant's communication, filed on 12/15/2003, has been carefully studied by the Examiner. The arguments advanced therein are persuasive. The rejections of the claims based upon prior art made of record in the previous Office action are withdrawn. In view of further search, however, and the consequent discovery of a relevant prior art document, a new rejection is set forth below. This action is **not** made final.

#### ***Specification***

1. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 10, 13, 14, 26, 27, 29 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Itoh et al. (U.S. Patent 4,559,564).

Regarding claims 1, 26, 27 and 30, Itoh et al. disclose (in figures 1 and 2) a fiber use in an electronic display, wherein the fiber comprises at least one electrode (12); a lens function designed into at least a part of the fiber (abstract, lines 7-8); and wherein at least two transparent materials (fiber cladding and core) such that each of the transparent materials have a different index of refraction.

Regarding claim 2, wherein the electrode is a metal wire electrode on the surface of the fiber (figure 1).

Regarding claims 3 and 4, Itoh et al. do not explicitly disclose the lens function changes a direction and focus of the light passing through the fiber. However, Itoh et al. teach a device having a fiber lens and the lens would alter the light direction and focusing in the fiber, thus inherently meeting the limitations of claims 3 and 4.

Regarding claim 5, wherein the lens function is located on at least one section of one surface of the fiber (fiber lens (32), figure 2).

Regarding claim 10, Itoh et al. do not explicitly disclose at least one reflecting region within the fiber or on the fiber surface. However, since it is the fiber lens, therefore, the reflecting region within the fiber or on the fiber surface is inherently taught in Itoh et al.

Regarding claims 13 and 14, Itoh et al. do not explicitly disclose at least one part of the fiber is colored and the lens function corrects for a chromatic aberration. However, since it is the fiber lens used in an image display and the lens would exactly

produce one point to another point between an object and its image; thus inherently meeting the limitations of claims 13 and 14.

Regarding claim 29, Itoh et al. do not explicitly disclose a plurality of alternating high and low index of refraction material regions are formed within the fiber such that the regions redirect light passing through the fiber. However, Itoh et al. teach a device having a fiber lens that has a core and cladding which would have different refractive index, thus inherently meeting the limitations of claim 29.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6, 7, 12, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al. (as cited above).

Regarding claim 6, Itoh et al. disclose all the limitations of the claimed invention except for the lens function created by a shape of the fiber surface selected from the group of a convex, concave and a combination of a convex and concave shape. However, it would have been an obvious matter of design choice to employ the above

shapes of the fiber, since such a modification would have involved a mere change in the figure of a component. A change in form or shape is generally recognized as being within the level of ordinary skill in the art. *In re Dailey*, 149 USPQ 47 (CCPA 1976).

Regarding claims 7 and 12, Itoh et al. disclose all the limitations of the claimed invention except for a lens material selected from the group of a binary, Fresnel and lenticular lens and the fiber material selected from the group of glass and plastic. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the binary, Fresnel and lenticular lens to make the lens and use glass and plastic to make the fiber, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claims 36 and 37, Itoh et al. disclose all the limitations of the claimed invention except for forming and drawing the preform to form the fiber. However, forming and drawing the preform are considered to be obvious, since the preform is commonly used in an optical communication system to form an optical fiber. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the preform to create the optical fiber for obtaining a better light transmission.

6. Claims 15-17 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al. (as cited above) in view of Zelitt (U.S. Patent 5,790,086).

Itoh et al. disclose all the limitations of the claims 15, 16, 31 and 32, except the display is a multiple view display and three-dimensional display. However, Zelitt teaches

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a multiple view and three-dimensional display (in figure 7 and abstract). Such an element would advantageously provide an improved imaging display, which is compact, and not requiring the use by the viewer of any glasses. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Itoh device with the multiple view and three-dimensional display (accordance with the teaching of Zelitt). Doing so would be desirable to obtain a better image display.

Itoh et al. disclose all the limitations of the claims 17 and 33, except the three-dimensional display is a stereoscopic display. However, Zelitt teaches the three-dimensional display is a stereoscopic display (in column 2, lines 18-22). Such an element would advantageously provide an improved imaging display, which is compact, and not requiring the use by the viewer of any glasses. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Itoh device with the three-dimensional display as the stereoscopic display (accordance with the teaching of Zelitt). Doing so would be desirable to obtain a better image display.

***Allowable Subject Matter***

7. Claims 8, 9, 11, 18, 19, 28, 34 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 20-25 and 38-39 are allowed.

The prior art fails to disclose or reasonably suggest a fiber including a lens function is created by a material having a different index of refraction than the fiber material as recited in claims 8 and 11; wherein one absorbing region within the fiber or on the fiber surface which creates an aperture as recited in claims 9 and 20; varying a focus of an image independently at each individual pixel as recited in claims 18 and 34; dynamically varying a distance of a perceived image from a viewer pixel by individual pixel as recited in claims 19 and 35; further the composition of the material stripes alternates between high and low indices of refraction such that light passing through the fiber is collimated as recited in claim 28.

The prior art also fails to disclose or reasonably suggest subdividing a voltage that creates the appearance of depth in at least one pixel location between more than one of the electrodes in the at least one pixel location such that the appearance of depth is perceived by a viewer to be between either appearance of depth created by applying the voltage to any one of the electrodes as recited in claim 38.

### ***Conclusion***

8. Applicant's arguments with respect to claims 1-39 have been considered but are moot in view of the new ground(s) of rejection.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chodil et al. (U.S. Patent 4,099,082), Meyer et al. (U.S. Patent 4,183,125) and Araki (U.S. Patent 5,838,494) disclose an image display.



10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00 am to 3:30 pm, second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Jennifer Doan*

JD  
April 16, 2004

*John D. Lee*  
John D. Lee  
Primary Examiner